Beneficial Insects of Strawberries

Beneficial Insects

Beneficial insects include pollinators and natural enemies of pests. Supporting beneficial insects can reduce reliance on commercial bees and pesticides.

Pollinators of Strawberries

Cultivated strawberries are self-fertile, but pollination by honey bees and native bees has repeatedly been shown to enhance strawberry quality. In general, bee diversity has been shown to enhance fruit quality of various plants.¹

Strawberry pollination by bees has been shown to:

- increase fruit size and weight²,³
- decrease malformations²,³,⁴
- enhance fruit redness²
- increase firmness and shelf life²
- speed up fruit development time⁵

Photo credit: Kristine Krewenka, Agroecology, Göttingen, Germany.
# Natural Enemies of Strawberry Pests

<table>
<thead>
<tr>
<th>Natural Enemy</th>
<th>Pest</th>
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| Parasitic wasps and flies             | • aphids  
|                                       | • beet armyworm  
|                                       | • cabbage looper  
|                                       | • corn earworm  
|                                       | • Lygus bug  
|                                       | • saltmarsh caterpillar  
|                                       | • whiteflies  |
| Minute pirate bug (Orius spp.)        | • corn earworm  
|                                       | • Lygus bug  
|                                       | • spider mites  
|                                       | • western flower thrips  
|                                       | • whiteflies  |
| Bigeyed bug (Geocoris)                | • Lygus bug  
|                                       | • spider mites  
|                                       | • whiteflies  |
| Lacewings (Chrysopa & Hemerobius)     | • aphids  
|                                       | • spider mites  
|                                       | • whiteflies  |
| Damsel bugs (Nabis spp)               | • Lygus bug  
|                                       | • spider mites  |
| Ladybeetles (Coccinellidae)           | • aphids  
|                                       | • spider mites  |
| Syrphid flies (Syrphidae)             | • aphids  |

Indicates insects that are known to benefit from feeding on floral nectar or pollen

Information and pictures from UC IPM (ipm.ucdavis.edu)
Supporting Beneficial Insects

Floral resources such as **nectar** and **pollen** are important for pollinators of strawberries and natural enemies of strawberry pests.

**Honeybees** are important pollinators of strawberries, but are more attracted to other floral resources.\textsuperscript{6} Planting flowering plants that may help sustain **native bees**, may and retain honeybee populations when strawberries are not in bloom.

Many **natural enemies** can live longer, attack more prey, and produce more offspring when they have access to nectar and/or pollen.\textsuperscript{7} Beneficial insects might utilize strawberry flowers, but may benefit from the **addition of other flowers**.

**Pesticides** are associated with **honeybee** and **native bee** population declines. Pesticides have lethal and sub-lethal effects on bees, and make bees more susceptible to disease.\textsuperscript{8}

**Natural enemies** are also sensitive to pesticide exposure, even to insecticides that target specific pest populations.\textsuperscript{9}

Thus, reduction in pesticide use may help sustain beneficial insects on strawberry farms.

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Learn More

- The Xerces Society for Invertebrate Conservation [www.xerces.org/fact-sheets/](http://www.xerces.org/fact-sheets/)


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